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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS-R8-ES-2008-0067]
[MO 92210-0-0008-B2]

Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to Reclassify the Delta Smelt From Threatened to Endangered Throughout Its Range

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of 12-month petition finding.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 12-month finding on a petition to reclassify the delta smelt (Hypomesus transpacificus) under the Endangered Species Act of 1973, as amended. After review of all available scientific and commercial information, we find that reclassifying the delta smelt from a threatened to an endangered species is warranted, but precluded by other higher priority listing actions. We will develop a proposed rule to reclassify this species as our priorities allow.

DATES: The finding announced in this document was made on April 7, 2010.

ADDRESSES: This finding is available on the Internet at http://www.regulations.gov at Docket Number FWS-R8-ES-2008-0067. Supporting documentation we used in preparing this finding is available for public inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, 2800 Cottage Way, W-2605, Sacramento, CA 95825. Please submit any new information, materials, comments, or questions concerning this finding to the above address.

FOR FURTHER INFORMATION CONTACT: Mary Grim, San Francisco Bay-Delta Fish and Wildlife Office, 650 Capitol Mall, 5\th\ Floor, Sacramento, CA 95814; by telephone at 916-930-5634; or by facsimile at 916-414-6462. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800-877-8339.

SUPPLEMENTARY INFORMATION:

Background

Section 4(b)(3)(A) of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 et seq.) requires that, for any petition to add a species to, remove a species from, or reclassify a species on one of the Lists of Endangered and Threatened Wildlife and Plants, we first make a determination whether the petition presents substantial scientific or commercial information indicating that the petitioned action may be warranted. To the maximum extent practicable, we make this determination within 90 days of receipt of the petition, and publish the finding promptly in the Federal Register.

If we find the petition presents substantial information, section 4(b)(3)(A) of the Act requires us to commence a status review of the species, and section 4(b)(3)(B) of the Act requires us to make a second finding, this one within 12 months of the date of receipt of the petition, on whether the petitioned action is: (a) Not warranted, (b) warranted, or (c) warranted, but the immediate proposal of a regulation implementing the petitioned action is precluded by other pending proposals to determine whether any species is threatened or endangered, and expeditious progress is being made to add or remove qualified species from the Lists of Endangered and Threatened Wildlife and Plants. We must publish these 12-month findings in the Federal

Register.
Species for which listing is warranted but precluded are considered to be ``candidates'' for listing. Section 4(b)(3)(C) of the Act requires that a petition for which the requested action is found to be warranted but precluded be treated as though resubmitted on the date of such finding, i.e., requiring a subsequent finding to be made within 12 months. Each subsequent 12-month finding is also to be published in the Federal Register. We typically publish these findings in our Candidate Notice of Review (CNOR). Our most recent CNOR was published on November 9, 2009 (74 FR 57804).

Previous Federal Action

We were originally petitioned to list the delta smelt as endangered on June 26, 1990. We proposed the species as threatened and proposed the designation of critical habitat on October 3, 1991 (56 FR 50075). We listed the species as threatened on March 5, 1993 (58 FR 12854), and we designated critical habitat on December 19, 1994 (59 FR 65256). The delta smelt was one of eight fish species addressed in the November 26, 1996, Recovery Plan for the Sacramento-San Joaquin Delta Native Fishes (Service 1996, pp. 1-195). We completed a 5-year status review of the delta smelt on March 31, 2004 (Service 2004, pp. 1-50).
On March 9, 2006, we received a petition to reclassify the listing status of the delta smelt, a threatened species, to endangered on an emergency basis. We sent a letter to the petitioners dated June 20, 2006, stating that we would not be able to address their petition at that time because further action on the petition was precluded by court orders and settlement agreements for other listing actions that required us to use nearly all of our listing funds for fiscal year 2006. We also stated in our June 20, 2006, letter that we had evaluated the immediacy of possible threats to the delta smelt, and had determined that an emergency reclassification was not warranted at that time.
On July 10, 2008, we published a 90-day finding that the petition presented substantial scientific information to indicate that reclassifying the delta smelt may be warranted (73 FR 39639). We announced the initiation of a status review at that time, and requested comments and information from the public on or before September 8, 2008. We reopened the comment period on December 9, 2008, and that comment period closed February 9, 2009 (73 FR 74674).

Species Information

Description and Taxonomy

Delta smelt are slender-bodied fish, generally about 60 to 70 millimeters (mm) (2 to 3 inches (in)) long, although they may reach lengths of up to 120 mm (4.7 in) (Moyle 2002, p. 227). Delta smelt are in the Osmeridae family (smelts) (Stanley et al. 1995, p. 390). Live fish are nearly translucent and have a steely blue sheen to their sides (Moyle 2002, p. 227). Delta smelt feed primarily on small planktonic (free-floating) crustaceans, and occasionally on insect larvae (Moyle 2002, p. 228). Delta smelt usually aggregate into loose schools, but their discontinuous stroke-and-glide swimming behavior likely makes schooling difficult (Moyle 2002, p. 228).
The delta smelt is one of six species currently recognized in the Hypomesus genus (Bennett 2005, p. 8). Within the genus, delta smelt is most closely related to surf smelt (H. pretiosis), a species common along the western coast of North America. In contrast, delta smelt is a comparatively distant relation to the wakasagi (H. nipponensis), which was introduced into Central Valley

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reservoirs in 1959, and may be seasonally sympatric with delta smelt in the estuary (Trenham et al. 1998, p. 417). Allozyme studies have demonstrated that wakasagi and delta smelt are genetically distinct and presumably derived from different marine ancestors (Stanley et al. 1995). Genetic characterization of delta smelt, longfin smelt, and wakasagi is presently under investigation, using contemporary methodologies.

Distribution and Abundance

Delta smelt are endemic to (native and restricted to) the San Francisco Bay and Sacramento-San Joaquin Delta Estuary (Delta) in California, found only from the San Pablo Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties (Moyle 2002, p. 227). Their historical range is thought to have extended from San Pablo Bay upstream to at least the city of

Sacramento on the Sacramento River and the city of Mossdale on the San Joaquin River. They were once one of the most common pelagic (living in open water away from the bottom) fish in the upper Sacramento-San Joaquin Estuary (Moyle 2002, p. 230).

Population estimates are not possible to obtain for this species (Herbold 1996, p. 1). A relative abundance index has been developed using various net surveys as well as counts of individuals entrained by (drawn into) Federal and State water export facilities (Bennett 2005, p. 5), and population assessments have been based on abundance index trends. Based on those indices, significant changes in delta smelt abundance occurred in 1975-76, 1980-81, and 1998-99 (Manly and Chotkowski 2006, p. 602). The 1980-1981 abundance index decline was one of the factors that resulted in listing delta smelt as a threatened species in 1993 (58 FR 12854; Moyle 2002, p. 230; CDFG 2008, p. 1). From 1991 to 2001, abundance index trends fluctuated wildly. In 2002, delta smelt and three other pelagic Delta fishes seemed to decline significantly, with delta smelt abundance indices trending to record lows from 2002 through 2008 (Armor et al. 2005, p. 3; CDFG 2008, p. 2). In March of 2004, we completed a 5 year review of the species that recommended against changing the listing status of the delta smelt. At that time there was no indication that the decreasing trend of 2002 was outside of the range of expected variability, similar to those in 1992, 1994, and 1996 (Service 2004, unpaginated App. B Midwater Trawl Abundance Index table). However, the delta smelt index continues a decreasing trend and is now estimated at the lowest level ever measured-roughly one and a half percent of the 1980 index level (CDFG 2008, p. 2).

Habitat and Life History

Studies indicate that delta smelt require specific environmental conditions (freshwater flow, water quality) and habitat types (shallow open waters) within the estuary for migration, spawning, egg incubation, rearing, and larval and juvenile transport from spawning to rearing habitats (Moyle 2002, pp. 228-229). Delta smelt are a euryhaline (tolerate a wide range of salinities) species; however, they rarely occur in water with more than 10-12 parts per thousand salinity (about one-third seawater). Delta smelt tolerate temperatures ranging from 7.5 \0\C to 25.4 \0\C (45 to 78 \0\F) in the laboratory (Swanson et al. 2000, p. 386, Table 1), but may be found in warmer waters in the Delta. Feyrer at al. (2007, p. 728) found that relative abundance of delta smelt was related to fall salinity and turbidity (water clarity). Delta smelt probably evolved within the naturally turbid (silt and particulate-laden) environment of the Delta and likely rely on certain levels of background turbidity at different life stages and for certain behaviors. Laboratory studies found that delta smelt larval feeding increased with increased turbidity (Baskerville-Bridges et al. 2004, p. 222).

Although spawning has not been observed in the wild, spawning location and timing has been inferred from the collection of larvae in sloughs and shallow edge-waters of channels in the upper Delta and in Montezuma Slough near Suisin Bay (Wang 1991, pp. 11-12). Spawning is believed to occur from late January through late June or early July at water temperatures ranging from 7 to 15 \0\C (45 to 59 \0\F) (Moyle 2002, p. 229). In the laboratory, spawning has been observed to occur between 12 and 22 \0\C (54 and 72 \0\F) (Bennett 2005, p. 13). In laboratory conditions, eggs typically hatch after 9 to 14 days and larvae begin feeding 5 to 6 days later (Mager et al. 2004, p. 172, Table 1). Larvae are generally most abundant in the Delta from mid-April through May (Bennett 2005, p. 13). After several weeks of development, larval surveys indicate that larvae move downstream until they reach nursery habitat in the ``low salinity zone'' (LSZ) where the salinity ranges from approximately 2 to 7 parts per thousand (ppt) (Moyle 2002, p. 228). Juvenile smelt rear and grow in the LSZ for several months, preferring relatively shallow open water (Dege and Brown 2004, pp. 56-58). In September or October, delta smelt reach adulthood and begin a gradual migration back into freshwater areas where spawning is thought to occur. Most delta smelt die after spawning, but a small contingent of adults survives and can spawn in their second year (Moyle 2002, p. 228).

Foraging Ecology

Delta smelt feed primarily on small planktonic (free-floating) crustaceans, and occasionally on insect larvae (Moyle 2002, p. 228). Historically, the main prey of delta smelt was the copepod Eurytemora affinis and the mysid shrimp Neomysis mercedis. The slightly larger copepod Pseudodiaptomus forbesi has replaced E. affinis as a major prey source of delta smelt since its introduction into the San Francisco Bay-Delta. Two other copepod species, Limnoithona tetraspina and

Acartiella sinenisi, have become abundant since their introduction to the San Francisco Bay-Delta in the mid 1990s. Delta smelt eat these introduced copepods, but P. forbesi remains a dominant prey item (Baxter et al. 2008, p. 22). The diets of larval delta smelt are limited to larval copepods (Nobriga 2002, p. 156). As mentioned previously, delta smelt are thought to require a turbid environment for efficient, successful foraging.

Summary of Factors Affecting the Species

Section 4 of the Act (16 U.S.C. 1533), and implementing regulations (50 CFR part 424), set forth the procedures for adding species to the Federal Lists of Endangered and Threatened Wildlife and Plants. Under section 4(a)(1) of the Act , a species may be determined to be endangered or threatened based on any of the following five factors: (1) The present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting its continued existence. In making this finding, information pertaining to the delta smelt, in relation to the five factors provided in section 4(a)(1) of the Act, is discussed below.

Numerous threats to delta smelt could be addressed either as habitat modifications or as falling under another of the five listing factors. We will consider habitat modifications (Factor A) to include alterations of salinity and turbidity (water clarity). We address issues of direct entrainment, contaminants, invasive species, and effects of small populations under Factor E, Other Natural or Manmade Factors.

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A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

From late spring through fall and early winter, delta smelt are located at the LSZ, which moves depending upon San Francisco Bay-Delta water outflow (Dege and Brown 2004, pp. 56-58; Service 2008, pp. 147, 150). Reduced Delta water outflow causes the LSZ to move upstream, which seems to concentrate delta smelt in a smaller area along with other competing planktivorous fishes (Bennett 2005, pp. 11, 20). Causes of such reduced outflows include smaller upstream releases from dams, increased water exports from the State and Federal facilities, and upstream water diversions for flooding rice fields (Feyrer 2007, p. 731; Service 2008, p. 153). Low freshwater outflows in the fall have been correlated with a reduced abundance index for young delta smelt the following summer (Feyrer et al. 2007, pp. 727, 728).

Delta smelt are also believed to require relatively turbid (not clear) waters to capture prey and avoid predators (Feyrer 2007, p. 731). Increased water clarity during the summer and fall has been shown to be negatively correlated with subsequent summer delta smelt abundance indices (Feyrer 2007, p. 728; Nobriga et al. 2008, p. 8). Since 1978, delta smelt have become increasingly rare in summer and fall surveys of the San Joaquin region of the San Francisco Bay-Delta (Nobriga et al. 2008, p. 9). The primary reason appears to be the comparatively high water clarity in the region, although high water temperatures are also likely a contributing factor (Nobriga et al. 2008, pp. 8, 9). The increased water clarity in delta smelt rearing habitat is attributed to the interruption of sediment transport by upstream dams (Arthur and Ball 1979, p. 157; Wright and Schoellhamer 2004, pp. 7, 10) and the spread of the exotic invasive water plant Egeria densa (Brazilian waterweed), which traps suspended sediments (Feyrer et al. 2007, p. 731).

Summary for Factor A

Based on a review of the best scientific and commercial information available, we find that destruction, modification, or curtailment of habitat poses a current and future threat to delta smelt. Operation of upstream reservoirs, increased water exports, and upstream water diversions have altered the location and extent of the low salinity zone, concentrating smelt in an area with competing fish species. Upstream reservoirs and the increased presence of Egeria densa have also reduced turbidity levels in rearing habitat, which may reduce foraging efficiency.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Delta smelt monitoring surveys are conducted throughout the year, including the Fall Mid-Winter Trawl (FMWT), Summer Townet Survey (TNS),

20-mm Survey, and Spring Kodiak Trawl Survey (SKT). Overall take by survey collection is believed to be low compared to estimated relative abundances (Bennett 2005, p. 7); however, considering the concern for reduced abundance based on trend assessment, questions arise as to whether these and other surveys pose a concern to the delta smelt. Because of low abundance and a high level of sampling mortality, survey methods have been modified to minimize potential impacts to delta smelt (K. Souza 2009, pers. comm.). Based on the low number of delta smelt collected in sampling surveys and the modified methods employed to further reduce these collections, we find that the amount of take expected to occur from sampling surveys does not reach a level substantial enough to be considered a threat. There is no evidence of use of the species for other commercial, recreational, scientific, or educational purposes.

Based on a review of the best scientific information available, we find that overutilization for commercial, recreational, or educational purposes is not likely to be a significant threat to the delta smelt in any portion of its range. Overutilization for scientific purposes may pose an increased concern to delta smelt, but survey protocols have been modified to minimize that concern.

C. Disease or Predation

Disease

Studies have not found evidence of significant disease infestations in wild delta smelt (Teh 2007, p. 8; Baxter et al. 2008, p. 14). Based on the best scientific and commercial information available, we conclude that disease does not threaten the delta smelt in any portion of its range.

Predation

At least three species of nonnative fish with the potential to prey on delta smelt occur within the Delta: striped bass (Morone saxatilis), largemouth bass (Micropterus salmoides), and inland silversides (Menidia beryllina) (Bennett 2005, p. 49; Baxter et al. 2008, p. 17). Striped bass are widely distributed in pelagic areas of the San Francisco Bay-Delta, and thus have wide areas of overlap with delta smelt juveniles and adults. They also tend to aggregate in the vicinity of water diversion structures, where delta smelt are frequently entrained (Nobriga and Feyrer 2007, p. 9). Thus, striped bass are likely to be the most significant predator of delta smelt (Nobriga and Feyrer 2007, p. 9), although the rarity of delta smelt would presumably make them a relatively unusual prey item. Delta smelt are not commonly found as prey for striped bass (Bennett 2005, p. 49; Nobriga and Feyrer 2007, p. 9); however, smelt may be taken opportunistically since both striped and largemouth bass have highly diverse diets (Nobriga and Feyrer 2007, p. 6).

Largemouth bass are freshwater fish that prefer shoreline (littoral) habitat with relatively dense water plants (Nobriga and Feyrer 2007, pp. 4, 8; Baxter et al. 2008, p. 17). Increases in the Delta's largemouth bass population since the early 1990s is believed to have been facilitated by the spread of the invasive plant Egeria densa, which provides bass habitat (Baxter 2008, p. 17). Despite increases in largemouth bass populations and habitat, Nobriga and Feyrer (2007, p 6) did not find delta smelt as largemouth bass prey.

Inland silversides may be predators and competitors with delta smelt (Bennett 2005, pp. 49, 50). Inland silversides were first introduced to the San Francisco Bay-Delta in the mid 1970s, and have increased dramatically in numbers since the mid-1980s. They forage in schools around the shoreline habitats of the San Francisco Bay-Delta, where delta smelt larvae and eggs occur. They readily consume delta smelt larvae in aquarium tests. Bennett (2005, p. 50) concluded that ``delta smelt are at high risk if eggs or larvae co-occur with schools of foraging silversides.'' We have no information regarding the extent to which this is likely to occur in the wild.

Based on a review of the best available scientific and commercial information, we find that predation likely constitutes a low-to-moderate threat. Although we have no empirical evidence to indicate predation has significantly increased since the time of listing, other factors, such increasing water clarity, could increase the risk of predation.

Summary for Factor C

Based on a review of the best available scientific and commercial information available, we conclude that disease is not likely to be a significant threat, and that predation is likely a

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low-to-moderate threat, to the species at this time.

D. The Inadequacy of Existing Regulatory Mechanisms

State Laws

California Endangered Species Act: The delta smelt was listed as threatened under the California Endangered Species Act (CESA) in 1993 (CDFG 2008, p. 5), and was reclassified as endangered under the CESA in 2010 (14 CCR 670.5). The CESA prohibits unpermitted possession, purchase, sale, or take of listed species. However, the CESA definition of take does not include harm, which under the Act can include destruction of habitat that actually kills or injures wildlife by significantly impairing essential behavioral patterns (50 CFR 17.3). The CESA does require consultation between the California Department of Fish and Game (CDFG) and other State agencies to ensure that activities of State agencies will not jeopardize the continued existence of State-listed species (CERES 2009, p. 1).

Porter Cologne Water Quality Control Act: The Porter Cologne Water Quality Control Act establishes the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards that are responsible for the regulation of activities and factors that could degrade California water quality and for the allocation of surface water rights (California Water Code Division 7). In 1995, the SWRCB developed the Bay-Delta Water Quality Control Plan to establish water quality objectives for the Delta. This plan is implemented by Water Rights Decision 1641, which imposes flow and water quality standards on State and Federal water export facilities to assure protection of beneficial uses in the Delta (Service 2008, pp. 21-27). The various flow objectives and export restraints are designed, in part, to protect fisheries. These objectives include specific outflow requirements throughout the year, specific water export restraints in the spring, and water export limits based on a percentage of estuary inflow throughout the year. The water quality objectives are designed to protect agricultural, municipal, industrial, and fishery uses; they vary throughout the year and by the wetness of the year.

Federal Laws

National Environmental Policy Act: The National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.) requires all Federal agencies to formally document, consider, and publicly disclose the environmental impacts of major Federal actions and management decisions significantly affecting the human environment. NEPA documentation is provided in an environmental impact statement, an environmental assessment, or a categorical exclusion, and may be subject to administrative or judicial appeal. However, the Federal agency is not required to select an alternative having the least significant environmental impacts, and may select an action that will adversely affect sensitive species provided that these effects are known and identified in a NEPA document. Therefore, we do not consider the NEPA process in itself is to be a regulatory mechanism that is certain to provide significant protection for the delta smelt.

Endangered Species Act: The delta smelt is currently listed as a threatened species under the Endangered Species Act of 1973, as amended (Act). By general regulation under sections 4(d) and 7(a) of the Act, threatened fish or wildlife species are afforded all the regulatory protections that endangered fish or wildlife species have. However, in order to provide those measures necessary and advisable for the conservation of a species listed as threatened, we can issue a special rule under section 4(d) of the Act to allow different restrictions on ``take'' as defined in section 3(19) of the Act and regulated under section 9 of the Act. No special rules for delta smelt currently exist. The Act defines a ``threatened species'' as ``any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range'' (section 3(20) of the Act). An ``endangered species'' is ``any species which is in danger of extinction throughout all or a significant portion of its range'' (section 3(6) of the Act). Section 6 of the Act authorizes us to enter into conservation agreements with States, and to allocate funds for conservation programs to benefit threatened or endangered species. Neither section 6 of the Act nor Service policy gives higher priority to endangered vs. threatened species for conservation funding.

The Central Valley Project (CVP), operated by the Bureau of Reclamation (Reclamation), and State Water Project (SWP), operated by the California Resources Agency Department of Water Resources (DWR), are currently operating under a Biological Opinion (BO) issued December 15, 2008, under section 7 of the Act (Service 2008, pp. 1-396). The BO includes a reasonable and prudent alternative (RPA), according to which water export facility operations could proceed without jeopardizing the continued existence of the species or destroying or adversely modifying its designated critical habitat. It also includes an incidental take statement (ITS) specifying reasonable and prudent measures necessary to minimize the incidental take of the species resulting from CVP and SWP operations. Reclamation has accepted the RPA provisionally, but may decide to reinitiate consultation (Reclamation 2008, p. 1). The ITS and

BO replace a previous ITS and BO issued in 2005 (Service 2005, p. 1), and also replace flow restrictions instituted by the District Court in the case of NRDC v. Kempthorne (Wanger 2007, pp. 1-11), which found the 2005 BO inadequate to conserve the species.

Central Valley Project Improvement Act: The Central Valley Project Improvement Act (Pub. L. 102-575)(CVPIA) amends the previous Central Valley Project (CVP) authorizations to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic uses, and fish and wildlife enhancement as having an equal priority with power generation (Public Law 102-575, October 30, 1992; Reclamation 2009). Included in CVPIA was a provision to dedicate 800,000 acre-feet of CVP yield annually for fish, wildlife, and habitat restoration, referred to as (b)(2) water. Since 1993, (b)(2) water has been used, supplemented with acquired environmental water (Environmental Water Account and CVPIA (b)(3) water), to protect delta smelt and their habitat by increasing stream flows and reducing CVP export pumping in the Delta (Guinee 2009, pers. comm.).

Summary for Factor D

In summary, although regulatory mechanisms are in place to address direct and indirect adverse effects to delta smelt and conserve smelt habitat, not all activities impacting delta smelt are subject to regulatory review and comment. The continued decline in delta smelt trend indicators suggest that existing regulatory mechanisms, as currently implemented, are not adequate to reduce threats to the species. Therefore, based on a review of the best scientific information available, we find existing regulatory mechanisms are either not sufficient or may not be addressing the most significant threat to the species.

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E. Other Natural or Manmade Factors Affecting the Species' Continued Existence

Other factors affecting the continued existence of the species include direct entrainment into water diversions, introduced species, contaminants, and increased vulnerabilities of small populations.

Direct Entrainment

Agricultural Diversions for Irrigation: There are 2,209 known agricultural diversions in the San Francisco Bay-Delta and an additional 366 diversions in Suisun Marsh used to enhance waterfowl habitat (Service 2008, p. 172). Most of these diversions do not have fish screens to protect fish from entrainment (trapping). The amount of entrainment that may occur at these diversions is not well-known, and efforts to determine the effect of this entrainment have been limited because previous studies either (1) did not quantify the volumes of water diverted, or (2) did not sample at times when, or locations where, delta smelt were abundant. Delta smelt may not be vulnerable to agricultural diversions for several reasons. First, adult delta smelt move into the Delta to spawn during winter to early spring when agricultural diversion operations are at a minimum. Second, larval delta smelt avoid the South Delta during summer when diversion demand peaks. Third, delta smelt are often distributed offshore, away from agricultural diversions (Nobriga et al. 2004, p. 293). Therefore, we do not consider entrainment by agricultural or waterfowl habitat diversions to be a significant threat to delta smelt.

Power Plant Diversions: Two power plants located near the confluence of the Sacramento and San Joaquin Rivers pose an entrainment risk to delta smelt: the Contra Costa Power Plant and the Pittsburg Power Plant (Service 2008, pp. 173-174). The maximum combined non-consumptive intake of cooling water for the two facilities is 3,240 cubic feet per second (cfs), which can exceed 10 percent of the total net outflow of the Sacramento and San Joaquin rivers. In 1979, average annual entrainment at the two power plants was estimated to be 86 million smelt (delta and longfin smelt combined). Power plant operations have been substantially reduced since that time, and are now either kept offline, or operating at very low levels, except as necessary to meet peak power needs. The owner of the power plants, Mirant, is monitoring entrainment at the two power plants to determine how many delta smelt may be affected by operation of the two plants. Entrainment of delta smelt by these two major power plants has been a significant threat in the past and could impact delta smelt in the future. These plants are of particular concern because they are located near, and draw cooling water from, an area where sensitive fish species are known to occur. Additional study is needed to determine the overall environmental impact of these power plants.

Water Export Facilities: Four major water diversion facilities exported between 4.85 and 8.7 km\3\ (3.93 and 7.05 million acre-feet) per year from the Delta during the years 1995 through 2005 (Kimmerer

and Nobriga 2008, p 2). Of these, the State and Federal facilities exported between 4.7 and 8.4 km\3\ (3.81 and 6.81 million acre-feet) per year. Operation of water export facilities directly affects fish by entrainment into the diversion facility. The risk of entrainment varies with the environmental and manmade effects on Delta hydrology and the location of delta smelt in the Delta (Culberson et al. 2004, pp. 260-262; Kimmerer and Nobriga 2008, pp. 19-20).

Entrainment of delta smelt varies among seasons and among years. Most adults are entrained from late December through March, while most larvae and juveniles are entrained from April through the end of June to early July. Studies of entrainment at the State and Federal export facilities found that entrainment rates increased with reverse flows in the Delta, which are related to export rates (Kimmer 2008, p. 20-22). Kimmerer (2008, p. 20, 22) estimated that from 0 to 62 percent of the larval population and 3 to 50 percent of the adult population is entrained annually by the State and Federal export facilities. Although an effort is made to salvage fish entrained by the pumping facilities, delta smelt are too fragile to do so effectively, and essentially all delta smelt entrained by the pumping facilities, including all delta smelt that enter the SWP's Clifton Court Forebay, do not survive (Bennett 2005, p. 37).

Entrainment may also affect the distribution of the successfully spawned population. Export of water by the CVP and SWP likely limits the reproductive success of delta smelt in the San Joaquin River by entraining most larvae during downstream transport from spawning sites to rearing areas (Kimmerer and Nobriga et al. 2008, p. 11). Winter entrainment of delta smelt represents a loss of pre-spawning adults and their reproductive potential (Sommer et al. 2007).

The population-level effects of such losses are unknown. However, increases in winter salvage of adults at the State and Federal export facilities during the early 2000s coincide with declines in delta smelt abundance estimates during the same time period (Baxter 2008, p.18). The total annual pumping from the State and Federal export facilities increased significantly in 2000, and has remained above 1990's levels through 2007 (Service 2008, p. 125). The delta smelt Fall Midwater Trawl (FMWT) abundance index decreased in the year 2000, and experienced severe declines 2 years later (CDFG 2008, p. 2). While there are many factors contributing to the declining trend in delta smelt abundance estimates, we consider entrainment by State and Federal water export facilities to be a significant and ongoing threat to the delta smelt.

In summary, we do not consider entrainment by agricultural diversions to be a significant threat due to their nearshore location. Entrainment into power plants at Pittsburgh and Contra Costa has had a significant impact on delta smelt in the past; however, their operations have been modified, and further study is needed to determine the present level of threat to delta smelt. The operation of State and Federal export facilities constitute a significant and ongoing threat to delta smelt through direct mortality by entrainment.

Introduced Species

Introduced species have altered the Delta food web and may have played a role in the decline of delta smelt (Nobriga 1998, p. 20). The overbite clam (Corbula amurensis) is a nonnative species that became abundant in the Delta in the late 1980s. Starting in about 1987 to 1988, declines were observed in the abundance of phytoplankton (Alpine and Cloern 1992, p. 951) and the copepod Eurytemora affinis. These declines have been attributed to grazing by the overbite clam (Kimmerer et al. 1994, p. 86). Because the overbite clam also consumes copepod larvae as it feeds (Kimmerer et al. 1994, p. 87), it not only reduces phytoplankton biomass but also competes directly with delta smelt for food. It is believed that these changes in the estuarine food web negatively influence pelagic fish abundance, including delta smelt abundance.

Copepods (E. affinis, Psuedodiaptomus forbesi), a major prey item for delta smelt, have declined in abundance in the Delta since the 1970s (Kimmerer and Orsi 1996, p. 409). Limnoithona tetraspina (no common name) is a nonnative copepod that began increasing in numbers in the delta in the mid 1990s - about the same time that the delta smelt's preferred prey copepod, P. forbesi, began declining

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(Bennett 2005, p. 18). L. tetraspina is now the most abundant copepod species in the low salinity zone (Bouley and Kimmerer 2006, p. 219), and is likely an inferior prey species for delta smelt because of its smaller size and superior predator avoidance abilities when compared to P. forbesi (Bennett 2005, p. 18; Baxter et al. 2008, p. 22).

Delta smelt may also be adversely affected by competition from introduced fish species that use overlapping habitats, such as inland silversides (Bennett 2005, pp. 49, 50). Laboratory studies show that

delta smelt growth is inhibited when reared with inland silversides (Bennett 2005, p. 50). Delta smelt and inland silversides have similar morphology, diet, and lifespan, but silversides have a broader diet, and a generally wider ecological niche, a pattern that could give it a competitive advantage over delta smelt (Bennett 2005, p. 50).

In summary, we find that introduced species have altered the Delta food web and constitute a significant threat to delta smelt. It is likely that this threat will increase in the future with the ongoing risk of new species being introduced to the Delta.

Contaminants

There is a potential for exposure of Delta organisms to various contaminants. Toxicity to invertebrates has been noted in water and sediments from the Delta and associated watersheds (e.g., Werner et al. 2000, pp. 218, 223). Fish exposed to water from agricultural drains in the San Joaquin River watershed can exhibit body burdens of selenium exceeding the level at which reproductive failure and increased juvenile mortality occur (Saiki et al. 2001, p. 629). Kuivila and Moon (2004, p. 239) found that peak densities of larval and juvenile delta smelt sometimes coincided in time and space with elevated concentrations of dissolved pesticides in the spring. These periods of co-occurrence lasted for up to 2 to 3 weeks. Concentrations of individual pesticides were low and much less than would be expected to cause acute mortality; however, the effects of exposure to the complex mixtures of pesticides are unknown.

Several studies were initiated in 2005 to address the possible role of contaminants and disease in the declines of San Francisco Bay-Delta fish and other aquatic species. The primary study consists of twice-monthly monitoring of ambient water toxicity at 15 sites in the San Francisco Bay-Delta and Suisun Bay (Baxter et al. 2008, pp. 13, 14). In 2005 and 2006, standard bioassays using the amphipod Hyalella azteca had low (less than 5 percent) frequency of occurrence of toxicity. However, preliminary results from 2007, a dry year, suggest the incidence of toxic events was higher than in the previous (wetter) years. Testing indicated that both organophosphate and pyrethroid pesticides may have contributed to the pulses of toxicity. Pyrethroids are of particular interest because use of these insecticides has increased within the San Francisco Bay-Delta watershed, as use of some organophosphate insecticides has declined.

In conjunction with the above investigation, larval delta smelt bioassays were conducted simultaneously with a subset of the invertebrate bioassays (Service 2008, pp. 187-188). The water samples for these tests were collected from six sites within the San Francisco Bay-Delta during May-August of 2006 and 2007. Results from 2006 indicate that delta smelt are highly sensitive to high levels of ammonia, low turbidity, and low salinity. No significant mortality of larval delta smelt was found in the 2006 bioassays, but there were two instances of significant mortality in June and July of 2007. In both cases, the water samples were collected from sites along the Sacramento River, where delta smelt larvae and juveniles are frequently collected in routine survey sampling. Both sets of water samples had relatively low turbidity and salinity levels and moderate levels of ammonia. It is also important to note that no significant Hyalella azteca mortality was detected in these water samples. While the H. azteca tests are useful for detecting biologically relevant levels of water column toxicity for zooplankton, interpretation of the H. azteca test results may not be applicable to fish, and delta smelt in particular.

A histopathological examination of adult delta smelt collected during the winter of 2005 found comparatively high levels of liver lesions in delta smelt taken from Suisun Bay, Suisun Marsh, and the South Delta, indicating that delta smelt in those areas had been subjected to higher levels of stress from contaminants than delta smelt in other areas (Teh 2007, pp. 12, 13). Although the study did not suggest such lesions would prevent survival or reproduction directly, it did note that such stress can leave afflicted individuals more susceptible to mortality from other causes, such as predation and disease. The study concluded that contaminants are unlikely to directly affect the survival of delta smelt in the Central Delta (Teh 2007, p. 2). The study also found a small number of intersex (having characteristics of both male and female sexes) delta smelt, with immature oocytes in their testes (Teh 2007, p. 14). This can result from exposure to endocrine-disrupting chemicals, but it can also occur spontaneously. Teh (2007) concluded that additional laboratory evaluation was necessary to identify the cause.

Large blooms of toxic blue-green algae, Microcystis aeruginosa, were first detected in the San Francisco Bay-Delta during the summer of 1999 (Lehman et al. 2005, p. 87). Since then, M. aeruginosa has bloomed each year, forming large colonies throughout most of the Delta and increasingly down into eastern Suisun Bay (Lehman et al. 2005, p. 92). Blooms typically occur between late spring and early fall and peak in the summer when temperatures are above 20 \0\C (68 \0\F). Microcystis

aeruginosa can produce natural toxins that pose animal and human health risks if contacted or ingested directly. Preliminary evidence indicates that the toxins produced by local blooms are not toxic to fishes at current concentrations (Baxter et al. 2008, p. 14). However, the copepods that delta smelt eat are particularly susceptible to those toxins (Ger 2008, pp. 12, 13). Studies are underway to determine if zooplankton production is compromised during M. aerguinosa blooms to an extent that is likely to adversely affect delta smelt (Service 2008, p. 186). Microcystis blooms may also decrease dissolved oxygen to lethal levels for fish; however, the distribution of delta smelt generally does not significantly overlap the densest M. aeruginosa concentrations, so low levels of dissolved oxygen are not likely a threat to delta smelt. One possible exception to non-overlapping distribution may have occurred during September 2007, when delta smelt were captured at higher salinity levels than normal. One possible explanation for this was that a substantial Microcystis bloom may have pushed delta smelt farther towards the ocean than they would normally have gone (Baxter et al. 2008, pp. 12, 28).

Although negative impacts to individual delta smelt for contaminants have been shown, the overall extent of such cases, and impacts to the population as a whole, remain largely undocumented. However, because substantial uncertainties exist and the co-occurrence of delta smelt with contaminants has been documented, we conclude that contaminants may constitute a significant threat to delta smelt.

Vulnerability of Small Populations

Delta smelt are relatively concentrated in their rearing habitat during the fall,

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making them vulnerable to normal, but damaging, environmental conditions such as droughts, contaminant spills, and predation. Small, isolated populations are more likely to lose genetic variability due to genetic drift (random genetic changes over time), and to suffer inbreeding depression due to the fixation of deleterious alleles (gene variants) (Lande 1999, pp. 11-17). Populations at low densities are often subject to Allee effects, which involve decreases in the ratio of offspring to adults as the population density decreases (Dennis 2002, p. 389). It is unknown if small population size may have contributed to delta smelt's most apparent decline.

Summary for Factor E

Based on a review of the best scientific and commercial information available, we find that the following additional natural or manmade factors pose significant ongoing threats to the delta smelt: entrainment by the State and Federal water export facilities and introduced species. Additional threats that are potentially significant are entrainment into power plant diversions, contaminants, and small population effects.

Finding

As required by the Act, we considered the five factors in assessing whether the delta smelt is threatened or endangered throughout all or a significant portion of its range. We carefully assessed the best scientific and commercial information available regarding whether reclassifying delta smelt from threatened to endangered may be warranted. We reviewed the information in our files, and information submitted to us after the publication of our 90-day finding (73 FR 39639) and during the reopened information collection period (73 FR 74674).

We believe there are many primary threats to the species: direct entrainments by State and Federal water export facilities (Factor E); summer and fall increases in salinity and water clarity (Factor A), and effects from introduced species (Factor E). Additional threats are predation by striped and largemouth bass and inland silversides (Factor C), entrainment into power plants (Factor E), contaminants (Factor E) and small population size (Factor E). Existing regulatory mechanisms (Factor D) have not proven adequate to halt the decline of delta smelt since the time of listing as a threatened species.

In March 2004, we completed a 5-year review for delta smelt in which we determined a change in status from threatened to endangered was not recommended. While none of the threats discussed above, other than apparent abundance, show significant differences from 2004, we now have strong evidence, not available at the time of our 5-year review, that at least some of those factors are endangering the species. The primary evidence is the continuing downward trend in delta smelt abundance indices since the significant decline that occurred in 2002 (CDFG 2008, p. 2). The 2002 decline was cited as a serious concern in 2004, but the delta smelt abundance indices had experienced significant downward trends in 1992, 1994, and 1996 (Service 2004, unpaginated App.

B Midwater Trawl Abundance Index table). However, after each of those previous declines, the abundance indices seemingly rebounded. The 2003 abundance index, the most current information available for the 5-year review, showed a slight increase from the 2002 index. Therefore, we had no evidence to suggest a cycle different from what had been previously observed, and we expected that the delta smelt would improve from the 2002 decline. In the 5 years since our 5-year review, however, delta smelt abundance indices have continued to decrease. The most recent fall midwater trawl abundance index is the lowest ever recorded - about one-tenth the level it was in 2003. In addition, a 2005 population viability analysis calculated a 50 percent likelihood that the species could reach effective extinction (8,000 individuals) within 20 years (Bennett 2005, pp. 53-54).

We are still unable to determine with certainty which threats or combinations of threats are directly responsible for the decrease in delta smelt abundance. However, the apparent low abundance of delta smelt in concert with ongoing threats throughout its range indicates that the delta smelt is now in danger of extinction throughout its range. Therefore, based on a review of the best scientific and commercial information available, we find that the delta smelt meets the definition of an endangered species under the Act, and that it warrants reclassification from threatened to endangered. However, at this time, the promulgation of a formal rulemaking to reclassify delta smelt is precluded by higher priority actions.

We adopted guidelines on September 21, 1983 (48 FR 43098) to establish a rational system for utilizing available resources for the highest priority species when adding species to the Lists of Endangered or Threatened Wildlife and Plants or reclassifying species listed as threatened to endangered status. The system places greatest importance on the immediacy and magnitude of threats, but also factors in the level of taxonomic distinctiveness by assigning priority in descending order to monotypic genera, full species, and subspecies (or equivalently, distinct population segments of vertebrates). As a result of our analysis of the best available scientific and commercial information, we have assigned the delta smelt a Listing Priority Number of 2, based on high magnitude and immediacy of threats. The magnitude of the threats is considered to be high, because they occur rangewide and result in mortality or significantly reduce the reproductive capacity of the species. They are imminent because these threats are ongoing and, in some cases (e.g., nonnative species), considered irreversible. While we conclude that reclassifying the species as endangered is warranted, an immediate proposal to reclassify this species is precluded by other higher priority actions, which we address below.

Preclusion and Expeditious Progress

Preclusion is a function of the listing priority of a species in relation to the resources that are available and competing demands for those resources. Thus, in any given fiscal year (FY), multiple factors dictate whether it will be possible to undertake work on a proposed listing regulation or whether promulgation of such a proposal is warranted but precluded by higher-priority listing actions.

The resources available for listing actions are determined through the annual Congressional appropriations process. The appropriation for the Listing Program is available to support work involving the following listing actions: proposed and final listing rules; 90-day and 12-month findings on petitions to add species to the Lists of Endangered and Threatened Wildlife and Plants (Lists) or to change the status of a species from threatened to endangered; annual determinations on prior ``warranted but precluded'' petition findings as required under section 4(b)(3)(C)(i) of the Act; critical habitat petition findings; proposed and final rules designating critical habitat; and litigation-related, administrative, and program-management functions (including preparing and allocating budgets, responding to Congressional and public inquiries, and conducting public outreach regarding listing and critical habitat). The work involved in preparing various listing documents can be extensive and may include, but is not limited to: gathering and assessing the best scientific and commercial data

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available and conducting analyses used as the basis for our decisions; writing and publishing documents; and obtaining, reviewing, and evaluating public comments and peer review comments on proposed rules and incorporating relevant information into final rules. The number of listing actions that we can undertake in a given year also is influenced by the complexity of those listing actions; that is, more complex actions generally are more costly. For example, during the past

several years, the cost (excluding publication costs) for preparing a 12-month finding, without a proposed rule, has ranged from approximately $11,000 for one species with a restricted range and involving a relatively uncomplicated analysis to $305,000 for another species that is wide-ranging and involving a complex analysis.

We cannot spend more than is appropriated for the Listing Program without violating the Anti-Deficiency Act (see 31 U.S.C. Sec. 1341(a)(1)(A)). In addition, in FY 1998 and for each fiscal year since then, Congress has placed a statutory cap on funds which may be expended for the Listing Program, equal to the amount expressly appropriated for that purpose in that fiscal year. This cap was designed to prevent funds appropriated for other functions under the Act (for example, recovery funds for removing species from the Lists), or for other Service programs, from being used for Listing Program actions (see House Report 105-163, 105\th\ Congress, 1st Session, July 1, 1997).

Recognizing that designation of critical habitat for species already listed would consume most of the overall Listing Program appropriation, Congress also put a critical habitat subcap in place in FY 2002 and has retained it each subsequent year to ensure that some funds are available for other work in the Listing Program: ``The critical habitat designation subcap will ensure that some funding is available to address other listing activities'' (House Report No. 107 - 103, 107\th\ Congress, 1st Session, June 19, 2001). In FY 2002 and each year until FY 2006, the Service has had to use virtually the entire critical habitat subcap to address court-mandated designations of critical habitat, and consequently none of the critical habitat subcap funds have been available for other listing activities. In FY 2007, we were able to use some of the critical habitat subcap funds to fund proposed listing determinations for high-priority candidate species. In FY 2009, while we were unable to use any of the critical habitat subcap funds to fund proposed listing determinations, we did use some of this money to fund the critical habitat portion of some proposed listing determinations, so that the proposed listing determination and proposed critical habitat designation could be combined into one rule, thereby being more efficient in our work. In FY 2010, we are using some of the critical habitat subcap funds to fund actions with statutory deadlines.

Thus, through the listing cap, the critical habitat subcap, and the amount of funds needed to address court-mandated critical habitat designations, Congress and the courts have in effect determined the amount of money available for other listing activities. Therefore, the funds in the listing cap, other than those needed to address court-mandated critical habitat for already listed species, set the limits on our determinations of preclusion and expeditious progress.

Congress also recognized that the availability of resources was the key element in deciding, when making a 12-month petition finding, whether we would prepare and issue a listing proposal or instead make a ``warranted but precluded'' finding for a given species. The Conference Report accompanying Public Law 97-304, which established the current statutory deadlines and the warranted-but-precluded finding, states (in a discussion on 90-day petition findings that by its own terms also covers 12-month findings) that the deadlines were ``not intended to allow the Secretary to delay commencing the rulemaking process for any reason other than that the existence of pending or imminent proposals to list species subject to a greater degree of threat would make allocation of resources to such a petition [that is, for a lower-ranking species] unwise.''

In FY 2010, expeditious progress is that amount of work that can be achieved with $10,471,000, which is the amount of money that Congress appropriated for the Listing Program (that is, the portion of the Listing Program funding not related to critical habitat designations for species that are already listed). However these funds are not enough to fully fund all our court-ordered and statutory listing actions in FY 2010, so we are using $1,114,417 of our critical habitat subcap funds in order to work on all of our required petition findings and listing determinations. This brings the total amount of funds we have for listing action in FY 2010 to $11,585,417. Starting in FY 2010, we are also using our funds to work on listing actions for foreign species since that work was transferred from the Division of Scientific Authority, International Affair Program to the Endangered Species Program. Our process is to make our determinations of preclusion on a nationwide basis to ensure that the species most in need of listing will be addressed first and also because we allocate our listing budget on a nationwide basis. The $11,585,417 is being used to fund work in the following categories: compliance with court orders and court-approved settlement agreements requiring that petition findings or listing determinations be completed by a specific date; section 4 (of the Act) listing actions with absolute statutory deadlines; essential litigation-related, administrative, and listing program-management functions; and high-priority listing actions for some of our candidate

species. The allocations for each specific listing action are identified in the Service's FY 2010 Allocation Table (part of our administrative record).

In FY 2007, we had more than 120 species with an LPN of 2, based on our September 21, 1983, guidance for assigning an LPN for each candidate species (48 FR 43098). Using this guidance, we assign each candidate an LPN of 1 to 12, depending on the magnitude of threats (high vs. moderate to low), immediacy of threats (imminent or nonimminent), and taxonomic status of the species (in order of priority: monotypic genus (a species that is the sole member of a genus); species; or part of a species (subspecies, distinct population segment, or significant portion of the range)). The lower the listing priority number, the higher the listing priority (that is, a species with an LPN of 1 would have the highest listing priority). Because of the large number of high-priority species, we further ranked the candidate species with an LPN of 2 by using the following extinction-risk type criteria: International Union for the Conservation of Nature and Natural Resources (IUCN) Red list status/rank, Heritage rank (provided by NatureServe), Heritage threat rank (provided by NatureServe), and species currently with fewer than 50 individuals, or 4 or fewer populations. Those species with the highest IUCN rank (critically endangered), the highest Heritage rank (G1), the highest Heritage threat rank (substantial, imminent threats), and currently with fewer than 50 individuals, or fewer than 4 populations, comprised a group of approximately 40 candidate species (``Top 40''). These 40 candidate species have had the highest priority to receive funding to work on a proposed listing determination. As we work on proposed

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and final listing rules for these 40 candidates, we are applying the ranking criteria to the next group of candidates with LPN of 2 and 3 to determine the next set of highest priority candidate species.

To be more efficient in our listing process, as we work on proposed rules for these species in the next several years, we are preparing multi-species proposals when appropriate, and these may include species with lower priority if they overlap geographically or have the same threats as a species with an LPN of 2. In addition, available staff resources are also a factor in determining high-priority species provided with funding. Finally, proposed rules for reclassification of threatened species to endangered are lower priority, since as listed species, they are already afforded the protection of the Act and implementing regulations.

We assigned the delta smelt an LPN of 2, based on our finding that the species faces immediate and high magnitude threats from the present or threatened destruction, modification, or curtailment of its habitat; the inadequacy of existing regulatory mechanisms; and other natural or manmade Factors. One or more of the threats discussed above are occurring in each known population. These threats are ongoing and, in some cases (e.g., nonnative species), considered irreversible. Under the 1983 Guidelines, a ``species'' facing imminent high-magnitude threats is assigned an LPN of 1, 2, or 3 depending on its taxonomic status. Because the delta smelt is a species, but not a monotypic genus, we assigned it an LPN of 2. We find that reclassification to endangered status for the delta smelt is currently warranted but precluded by higher priority listing actions. One of the primary reasons that the reclassification of delta smelt is considered a lower priority is that the species is currently listed as threatened, and therefore already receives certain protections under the Act. The Service promulgated regulations extending take prohibitions for endangered species under section 9 to threatened species (50 CFR 17.31). Prohibited actions under section 9 include, but are not limited to, take (i.e., to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in such activity). Other protections include those under section 7(a)(2) of the Act whereby Federal agencies must insure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered or threatened species.

Given the above-mentioned funding constraints, the Service's priority is to list as threatened or endangered all candidate species (and thus provides protections under the Act) before reclassifying threatened species that already receive protection under the Act. Therefore, work on a proposed reclassification from threatened to endangered for the delta smelt is precluded by work on: (1) listing determinations for listing actions with absolute statutory, court-ordered, or court-approved deadlines, and final listing determinations for those species that have been proposed for listing; and (2) candidate species and reclassifications of other higher priority threatened species (i.e., species with LPN of 1). This work includes all the actions listed in the tables below under expeditious progress.

As explained above, a determination that reclassification is warranted but precluded must also demonstrate that expeditious progress is being made to add or remove qualified species to and from the Lists of Endangered and Threatened Wildlife and Plants. (Although we do not discuss it in detail here, we are also making expeditious progress in removing species from the list under the Recovery program, which is funded by a separate line item in the budget of the Endangered Species Program. As explained above in our description of the statutory cap on Listing Program funds, the Recovery Program funds and actions supported by them cannot be considered in determining expeditious progress made in the Listing Program.) As with our ``precluded'' finding, expeditious progress in adding qualified species to the Lists is a function of the resources available and the competing demands for those funds. Given that limitation, we find that we have made progress in FY 2009 in the Listing Program and will continue to make progress in FY 2010. This progress included preparing and publishing the following determinations:

FY 2010 Completed Listing Actions

Publication Date	Title	Actions	FR Pages
10/08/2009	Listing Lepidium papilliferum (Slickspot Peppergrass) as a Threatened Species Throughout Its Range	Final Listing Threatened.....	74 FR 52013-52064
10/27/2009	90-day Finding on a Petition To List the American Dipper in the Black Hills of South Dakota as Threatened or Endangered	Notice of 90-day Petition Finding, Not substantial.....	74 FR 55177-55180
10/28/2009	Status Review of Arctic Grayling (Thymallus arcticus) in the Upper Missouri River System	Notice of Intent to Conduct Status Review..	74 FR 55524-55525
11/03/2009	Listing the British Columbia Distinct Population Segment of the Queen Charlotte Goshawk Under the Endangered Species Act: Proposed rule.	Proposed Listing Threatened.....	74 FR 56757-56770
11/03/2009	Listing the Salmon-Crested Cockatoo as Threatened Throughout Its Range with Special Rule	Proposed Listing Threatened.....	74 FR 56770-56791
11/23/2009	Status Review of Gunnison sage-grouse (Centrocercus minimus)	Notice of Intent to Conduct Status Review..	74 FR 61100-61102
12/03/2009	12-Month Finding on a Petition to List the Black-tailed Prairie Dog as Threatened or Endangered	Notice of 12 month petition finding, Not warranted.....	74 FR 63343-63366

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12/03/2009	90-Day Finding on a Petition to List Sprague's Pipit as Threatened or Endangered	Notice of 90-day Petition Finding, Substantial.....	74 FR 63337-63343
12/15/2009	90-Day Finding on Petitions To List Nine Species of Mussels From Texas as Threatened or	Notice of 90-day Petition Finding, Substantial.....	74 FR 66260-66271

	Endangered With Critical Habitat		
12/16/2009	Partial 90-Day Finding on a Petition to List 475 Species in the Southwestern United States as Threatened or Endangered With Critical Habitat; Proposed Rule	Notice of 90-day Petition Finding, Not substantial and Subtantial.	74 FR 66865-66905
12/17/2009	12-month Finding on a Petition To Change the Final Listing of the Distinct Population Segment of the Canada Lynx To Include New Mexico	Notice of 12 month petition finding, Warranted but precluded	74 FR 66937-66950
1/05/2010	Listing Foreign Bird Species in Peru and Bolivia as Endangered Throughout Their Range	Proposed Listing Endangered.....	75 FR 605-649
1/05/2010	Listing Six Foreign Birds as Endangered Throughout Their Range	Proposed Listing Endangered.....	75 FR 286-310
1/05/2010	Withdrawal of Proposed Rule to List Cook's Petrel	Proposed rule, withdrawal.....	75 FR 310-316
1/05/2010	Final Rule to List the Galapagos Petrel and Heinroth's Shearwater as Threatened Throughout Their Ranges	Final Listing Threatened.....	75 FR 235-250
1/20/2010	Initiation of Status Review for Agave eggersiana and Solanum conocarpum	Notice of Intent to Conduct Status Review..	75 FR 3190-3191
2/09/2010	12-month Finding on a Petition to List the American Pika as Threatened or Endangered; Proposed Rule	Notice of 12-month petition finding, Not warranted.....	75 FR 6437-6471
2/25/2010	12-Month Finding on a Petition To List the Sonoran Desert Population of the Bald Eagle as a Threatened or Endangered Distinct Population Segment	Notice of 12-month petition finding, Not warranted.....	75 FR 8601-8621
2/25/2010	Withdrawal of Proposed Rule To List the Southwestern Washington/Columbia River Distinct Population Segment of Coastal Cutthroat Trout (Oncorhynchus clarki clarki) as Threatened	Withdrawal of Proposed Rule to List.....	75 FR 8621-8644
3/18/2010	90-Day Finding on a Petition to List the Berry Cave salamander as Endangered	Notice of 90-day Petition Finding, Substantial.....	75 FR 13068-13071
3/23 /2010	90-Day Finding on a Petition to List the Southern Hickorynut Mussel (Obovaria	Notice of 90-day Petition Finding, Not substantial.....	75 FR 13717-13720

	jacksoniana) as Endangered or Threatened		
3/23 /2010	90-Day Finding on a Petition to List the Striped Newt as Threatened	Notice of 90-day Petition Finding, Substantial.....	75 FR 13720-13726
3/23/2010	12-Month Findings for Petitions to List the Greater Sage-Grouse (Centrocercus urophasianus)as Threatened or Endangered	Notice of 12-month petition finding, Warranted but precluded	75 FR 13910-14014
3/31/2010	12-Month Finding on a Petition to List the Tucson Shovel-Nosed Snake (Chionactis occipitalis klauberi) as Threatened or Endangered with Critical Habitat	Notice of 12-month petition finding Warranted but precluded	75 FR 16050-16065

Our expeditious progress also includes work on listing actions that we funded in FY 2010 but have not yet been completed to date. These actions are listed below. Actions in the top section of the table are being conducted under a deadline set by a court. Actions in the middle section of the table are being conducted to meet statutory timelines, that is, timelines required under the Act. Actions in the bottom section of the table are high-priority listing actions. These actions include work primarily on species with an LPN of 2, and selection of these species is

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partially based on available staff resources, and when appropriate, include species with a lower priority if they overlap geographically or have the same threats as the species with the high priority. Including these species together in the same proposed rule results in considerable savings in time and funding, as compared to preparing separate proposed rules for each of them in the future.

Actions funded in FY 2010 but not yet completed

Species	Action
Actions Subject to Court Order/Settlement Agreement	
6 Birds from Eurasia	Final listing determination
Flat-tailed horned lizard	Final listing determination
6 Birds from Peru	Proposed listing determination
Sacramento splittail	Proposed listing determination
Big Lost River whitefish	12-month petition finding
White-tailed prairie dog	12-month petition finding
Gunnison sage-grouse	12-month petition finding
Wolverine	12-month petition finding
Arctic grayling	12-month petition finding
Agave eggergsiana	12-month petition finding
Solanum conocarpum	12-month petition finding
Mountain plover	12-month petition finding
Hermes copper butterfly	90-day petition finding

Thorne's hairstreak butterfly	90-day petition finding
Actions with Statutory Deadlines	
Casey's june beetle	Final listing determination
Georgia pigtoe, interrupted rocksnail, and rough hornsnail	Final listing determination
2 Hawaiian damselflies	Final listing determination
African penguin	Final listing determination
3 Foreign bird species (Andean flamingo, Chilean woodstar, St. Lucia forest thrush)	Final listing determination
5 Penguin species	Final listing determination
Southern rockhopper penguin - Campbell Plateau population	Final listing determination
5 Bird species from Colombia and Ecuador	Final listing determination
7 Bird species from Brazil	Final listing determination
Queen Charlotte goshawk	Final listing determination
Salmon crested cockatoo	Proposed listing determination
Black-footed albatross	12-month petition finding
Mount Charleston blue butterfly	12-month petition finding
Least chub\1\	12-month petition finding
Mojave fringe-toed lizard\1\	12-month petition finding
Pygmy rabbit (rangewide)\1\	12-month petition finding
Kokanee - Lake Sammamish population\1\	12-month petition finding
Cactus ferruginous pygmy-owl\1\	12-month petition finding

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Northern leopard frog	12-month petition finding
Tehachapi slender salamander	12-month petition finding
Coqui Llanero	12-month petition finding
Susan's purse-making caddisfly	12-month petition finding
White-sided jackrabbit	12-month petition finding
Jemez Mountains salamander	12-month petition finding
Dusky tree vole	12-month petition finding
Eagle Lake trout\1\	12-month petition finding
29 of 206 species	12-month petition finding
Desert tortoise - Sonoran population	12-month petition finding
Gopher tortoise - eastern population	12-month petition finding
Amargosa toad	12-month petition finding
Wyoming pocket gopher	12-month petition finding
Pacific walrus	12-month petition finding
Wrights marsh thistle	12-month petition finding
67 of 475 southwest species	12-month petition finding

9 Southwest mussel species	12-month petition finding
14 parrots (foreign species)	12-month petition finding
Southeastern pop snowy plover & wintering pop. of piping plover\1\	90-day petition finding
Eagle Lake trout\1\	90-day petition finding
Ozark chinquapin\1\	90-day petition finding
Smooth-billed ani\1\	90-day petition finding
Bay Springs salamander\1\	90-day petition finding
Mojave ground squirrel\1\	90-day petition finding
32 species of snails and slugs\1\	90-day petition finding
Calopogon oklahomensis\1\	90-day petition finding
42 snail species	90-day petition finding
White-bark pine	90-day petition finding
Puerto Rico harlequin	90-day petition finding
Fisher - Northern Rocky Mtns. population	90-day petition finding
Puerto Rico harlequin butterfly\1\	90-day petition finding
42 snail species (Nevada & Utah)	90-day petition finding
HI yellow-faced bees	90-day petition finding
Red knot roselaari subspecies	90-day petition finding
Honduran emerald	90-day petition finding
Peary caribou	90-day petition finding
Western gull-billed tern	90-day petition finding

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Plain bison	90-day petition finding
Giant Palouse earthworm	90-day petition finding
Mexican gray wolf	90-day petition finding
Spring Mountains checkerspot butterfly	90-day petition finding
Spring pygmy sunfish	90-day petition finding
San Francisco manzanita	90-day petition finding
Bay skipper	90-day petition finding
Unsilvered fritillary	90-day petition finding
Texas kangaroo rat	90-day petition finding
Spot-tailed earless lizard	90-day petition finding
Eastern small-footed bat	90-day petition finding
Northern long-eared bat	90-day petition finding
Prairie chub	90-day petition finding
10 species of Great Basin butterfly	90-day petition finding
High Priority Listing Actions\3\	
19 Oahu candidate species\3\ (16 plants, 3 damselflies) (15 with LPN = 2, 3 with LPN	Proposed listing

= 3, 1 with LPN =9)	
17 Maui-Nui candidate species\3\ (14 plants, 3 tree snails) (12 with LPN = 2, 2 with LPN = 3, 3 with LPN = 8)	Proposed listing
Sand dune lizard\3\ (LPN = 2)	Proposed listing
2 Arizona springsnails\3\ (Pyrgulopsis bernadina (LPN = 2), Pyrgulopsis trivialis (LPN = 2))	Proposed listing
2 New Mexico springsnails\3\ (Pyrgulopsis chupaderae (LPN = 2), Pyrgulopsis thermalis (LPN = 11))	Proposed listing
2 mussels\3\ (rayed bean (LPN = 2), snuffbox No LPN)	Proposed listing
2 mussels\3\ (sheepnose (LPN = 2), spectaclecase (LPN = 4),)	Proposed listing
Ozark hellbender\2\ (LPN = 3)	Proposed listing
Altamaha spinymussel\3\ (LPN = 2)	Proposed listing
5 southeast fish\3\ (rush darter (LPN = 2), chucky madtom (LPN = 2), yellowcheek darter (LPN = 2), Cumberland darter (LPN = 5), laurel dace (LPN = 5))	Proposed listing
8 southeast mussels (southern kidneyshell (LPN = 2), round ebonyshell (LPN = 2), Alabama pearlshell (LPN = 2), southern sandshell (LPN = 5), fuzzy pigtoe (LPN = 5), Choctaw bean (LPN = 5), narrow pigtoe (LPN = 5), and tapered pigtoe (LPN = 11))	Proposed listing
3 Colorado plants\3\ (Pagosa skyrocket (Ipomopsis polyantha) (LPN = 2), Parchute beardtongue (Penstemon debilis) (LPN = 2), Debeque phacelia (Phacelia submutica) (LPN = 8))	Proposed listing

\1\ Funds for listing actions for these species were provided in previous FYs.
\2\ We funded a proposed rule for this subspecies with an LPN of 3 ahead of other species with LPN of 2, because the threats to the species were so imminent and of a high magnitude that we considered emergency listing if we were unable to fund work on a proposed listing rule in FY 2008.
\3\ Funds for these high-priority listing actions were provided in FY 2008 or 2009.

We have endeavored to make our listing actions as efficient and timely as possible, given the requirements of the relevant law and regulations, and constraints relating to workload and personnel. We are continually considering ways to streamline processes or achieve economies of scale, such as by batching related actions together. Given our limited budget for implementing section 4 of the Act, these actions described above collectively constitute expeditious progress.

We intend that any proposed reclassification of the delta smelt will be as accurate as possible. Therefore, we will continue to accept additional information and comments from all concerned governmental agencies, the scientific community, industry, or any

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other interested party concerning this finding.

References Cited

A complete list of references cited is available on the Internet at http://www.regulations.gov and upon request from the Sacramento Fish and Wildlife Office (see ADDRESSES section).

Author

The primary authors of this notice are the staff members of the Bay-Delta Fish and Wildlife Office (see ADDRESSES section).

Authority

The authority for this action is section 4 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

Dated: March 26, 2010
Jeffrey L. Underwood,
Acting Director, Fish and Wildlife Service.
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